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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,806	11/24/2003	Young-Joo Yee	0630-1870P	3449

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EXAMINER

PAYNE, DAVID C

ART UNIT PAPER NUMBER

2613

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/718,806	<b>Applicant(s)</b> YEE ET AL.	
	<b>Examiner</b> David C. Payne	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-36 is/are allowed.
- 6) ☒ Claim(s) 1,3,6,37 and 38 is/are rejected.
- 7) ☒ Claim(s) 2,4,5 and 7-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. However, priority has not been given 10-2002-0074096 (Nov 26, 2002) since this application does not claim the same subject matter.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 6, 37, and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Medina et al. US 20040136680 A1 (Medina).

Re claims 1, 3, 6, 37, and 38, Medina disclosed,

According to the present invention there is provided a variable optical attenuator comprising: a transparent silicon shutter having two, a first and a second, non-parallel shutter sidewalls, each sidewall having an arbitrary shape, the shutter operative to attenuate an optical beam transmitted in an optical path from a transmitting fiber having a transmitting optical axis and facing the first shutter sidewall, to a receiving fiber having a receiving optical axis and facing the second shutter

sidewall, wherein the attenuation is based on a tilt induced by a variable angle between the two non-parallel shutter sidewalls, the variable angle dependent on a position of the shutter relative to the beam; and an actuating mechanism for placing the shutter in the beam path.

[0013] According to the present invention there is provided an integrated variable optical attenuator and 2.times.2 optical switch component comprising four tapered and angled optical fibers arranged as two transmitting and two receiving fibers in a butt-coupling setup, and a MEMS element operative to perform both switching and variable optical attenuation of an optical beam transmitted along an optical path between one of the transmitting fibers to one of the receiving fibers.

[0014] According to the present invention there is provided a MEMS VOA comprising: a shutter operative to attenuate an optical beam transmitted along an optical path from a first optical fiber to a second optical fiber; and an actuator operative to position the shutter to intersect the optical beam path, the actuator including a folded suspension having a plurality of straight, curved, bent or combination thereof of springs, with at least one of the springs connected to the shutter.

[0015] According to the present invention there is provided a MEMS VOA comprising: a shutter operative to attenuate an optical beam transmitted along an optical path from a first optical fiber to a second optical fiber; an actuator operative to position the shutter in the beam path, wherein the actuator includes a folded suspension having a plurality of springs, at least one of the springs connected to the shutter, and wherein the at least one spring is selected from the group consisting of a curved spring and a bent spring; and at least one side electrode interacting electrostatically with the frame to provide the actuator operativeness.

[0016] According to the present invention there is provided a MEMS VOA comprising: a shutter operative to attenuate an optical beam transmitted along an optical path from a first optical fiber to a second optical fiber; and a high resolution radial-to-linear actuator including at least one pre-curved spring and operative to translate a radial movement of the pre-curved spring beam into a much smaller movement that positions the shutter to intersect the optical path, paragraphs 12-16.

### ***Allowable Subject Matter***

5. Claims 34-36 are allowed.

6. Claims 2, 4, 5, and 7-33 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7:00a - 4:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dcp

  
**David C. Payne**  
Primary Examiner  
AU 2613